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I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: October 14, 2010 Name: Ryan Gleitz, Reg. No. 62,164 Signature:

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MP1108 (13036/121)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application:

Lyman Leonard Hall et al.

Application No.: 10/680,018

Filed: October 6, 2003

For: METHOD OF PRE-PROCESSING DATA ON A HOST MACHINE FOR A HOST-BASED PRINT SYSTEM

Examiner: Hilina Kassa

Group: 2625

Confirmation No.: 4703

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

Dear Sir:

The undersigned hereby declares that:

1. We are the inventors of the subject matter described and claimed in the current application.

2. We are employed by Marvell International Technology Ltd., which is the assignee of the current application. We have the following experience and education related to the current application:

Lyman Leonard Hall – Bachelor of Science in Computer Engineering from Brigham Young University and 9 years of development and management experience in the laser printing field.

Douglas Gene Keithley - Bachelor of Science in Electrical Engineering from Washington State University and 15 years of experience in the laser and ink printing field.

Gary D. Zimmerman – Bachelors of Science in Electrical Engineering and Computer Engineering from Iowa State University and 20 years of experience in the laser and ink printing field.

David Alan Bartle – Bachelor of Science in Electrical Engineering from Montana State and Master of Science from Montana State and 18 years experience in laser print product development.

3. Before the invention of the subject matter described and claimed in the current application a long-felt need was recognized in the printing field for a printing solution that benefited from the resource allocation of host-based processing printing and the quality and high resolution of printer-based processing printing.

4. In the past, printer languages were developed so that the text and locations could be sent to the printer and the printer would render the entire page. This, of course, requires essentially a full computer system in the printer, which is costly.

5. Host-based processing emerged as a low cost alternative to printer-based processing. Host-based processing rendered the entire page on the host. In host-based processing, a 1 bit per pixel output is sent to the printer. However, laser printing systems could not produce high quality images using 1 bit per pixel data.

6. Attempts were made to recover detail from the 1 bit per pixel data, which may work for some known images such as text, but cannot work for photos, line art, or other graphics because the 1 bit per pixel data simply lacks the level of detail necessary for compensating for printing artifacts and non-linearity. This problem was present in the laser printing field without a solution from at least 1998.

7. The subject matter of the current application includes a solution that solves the problems of expensive hardware in printer-based processing and low quality output found in host-based processing. The solution renders unique data on the host that is more complicated that the 1 bit per pixel data of host-based processing but still requires less expensive hardware on the printer than in printer-based processing. The unique data generated by the host represents grayscale (or

other color) values along with unique printer specific correction, such as print engine control commands.

8. The subject matter of the current application includes a solution that can operate using significantly less processing power and memory as compared to printer-based processing. Additional efficiencies from power and related hardware may be realized.

9. To my knowledge, the long-felt need for a solution that solves the problems of expensive hardware in printer-based processing and low quality output found in host-based processing had not been satisfied by another before the invention of the current application.

10. All statements made herein are of my own knowledge and are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States code, and that such willful statements may jeopardize the validity of the application or any patent issued therefrom.

Respectfully submitted,

Lyman Leonard Hall	10/13/10 Date
Douglas Gene Keithley	10/13/2010 Date
Gary D. Zimmerman	10/13/2010 Date
David Alan Bartle	10/13/2010 Date